

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1-37. (Canceled)

38. (Currently amended) An isolated polynucleotide comprising at least 15 contiguous nucleotides from the nucleotide sequence of SEQ ID NO: 4, said polynucleotide encoding a *Helicobacter pylori* CAI antigen, an immunogenic fragment thereof or an immunogenic derivative thereof which is immunologically identifiable with the amino acid sequence of SEQ ID NO: 5, wherein said *Helicobacter pylori* CAI antigen, immunogenic fragment, or immunogenic derivative comprising the amino acid sequence ~~polynucleotide encodes a polypeptide comprising one or two amino acid sequences~~ of SEQ ID NO: 10.

39. (Previously presented) The polynucleotide of claim 38, wherein said polynucleotide comprises at least 30 contiguous nucleotides from the nucleotide sequence of SEQ ID NO: 4.

40. (Previously presented) The polynucleotide of claim 38, said polynucleotide comprising at least 45 contiguous nucleotides from the nucleotide sequence of SEQ ID NO: 4.

41. – 43. (Canceled)

44. (Currently amended) An isolated polynucleotide encoding a *Helicobacter pylori* CAI antigen, an immunogenic fragment thereof, or an immunogenic derivative thereof which is immunologically identifiable with the amino acid sequence of SEQ ID NO: 5, wherein said *Helicobacter pylori* CAI antigen, immunogenic fragment, or immunogenic derivative comprises the amino acid sequence ~~a polypeptide comprising at least five contiguous amino acids from the amino acid sequence of SEQ ID NO: 5, wherein said polypeptide comprises one or two amino acid sequences~~ of SEQ ID NO: 10.

45. (Previously Presented) A vector comprising the polynucleotide of claim 38 or 44.

46. (Previously Presented) An isolated host cell transformed with the vector of claim 45.

47. (Canceled)

48. (Previously presented) The polynucleotide of claim 38, said polynucleotide comprising at least 15 contiguous nucleotides from nucleotide position 2776 to nucleotide position 3466 of the nucleotide sequence of SEQ ID NO: 4.

49. (Currently amended) The polynucleotide of claim 44, said *Helicobacter pylori* CAI antigen, immunogenic fragment, or immunogenic derivative comprising ~~polynucleotide encoding~~ at least 10 contiguous amino acids from the amino acid sequence of SEQ ID NO: 5.

50. (Currently amended) The polynucleotide of claim 44, said *Helicobacter pylori* CAI antigen, immunogenic fragment, or immunogenic derivative comprising ~~polynucleotide encoding~~ at least 15 contiguous amino acids from the amino acid sequence of SEQ ID NO: 5.

51. – 53. (Canceled)

54. (Currently amended) The polynucleotide of claim 44, said *Helicobacter pylori* CAI antigen, immunogenic fragment, or immunogenic derivative comprising ~~polynucleotide encoding a polypeptide comprising~~ amino acids 1 – 1147 of the amino acid sequence of SEQ ID NO: 5.

55. – 56. (Canceled)

57. (Currently amended) The polynucleotide of claim 44, said *Helicobacter pylori* CAI antigen, immunogenic fragment, or immunogenic derivative comprising ~~polynucleotide encoding~~ at least amino acid positions 748 to 977 of the amino acid sequence of SEQ ID NO: 5.

58. (Previously presented) The polynucleotide of claim 38, said polynucleotide comprising the contiguous nucleotides from nucleotide position 535 to nucleotide position 3975 of the nucleotide sequence of SEQ ID NO: 4.

59. - 61. (Canceled)

62. (Previously presented) The polynucleotide of claim 38, 39, or 40, wherein said polynucleotide comprises at least one nucleotide sequence of nucleotides 3172-3189 of SEQ ID NO: 4, nucleotides 3202-3216 of SEQ ID NO: 4, nucleotides 3259-3273 of SEQ ID NO: 4, nucleotides 2641-2676 of SEQ ID NO: 4, or nucleotides 2776-2811 of SEQ ID NO: 4.

63. (Canceled)

64. (Currently amended) The polynucleotide of claim 38, said *Helicobacter pylori* CAI antigen, immunogenic fragment, or immunogenic derivative comprising further ~~comprising a nucleotide sequence encoding the~~ amino acid sequence of SEQ ID NO: 9 or amino acids 880-885 of SEQ ID NO: 5.

65. (Currently amended) The polynucleotide of claim 38, said *Helicobacter pylori* CAI antigen, immunogenic fragment, or immunogenic derivative comprising further ~~comprising a second nucleotide sequence encoding the~~ amino acid sequence of SEQ ID NO: 10 or amino acids 880-885 of SEQ ID NO: 5.

66. – 69. (Canceled)

70. (Currently amended) The polynucleotide of claim 38, said *Helicobacter pylori* CAI antigen ~~wherein said polynucleotide encodes a polypeptide comprising the~~ amino acid sequence of SEQ ID NO: 5.

71. (Withdrawn; currently amended) The polynucleotide of claim 38, said *Helicobacter pylori* CAI antigen, immunogenic fragment, or immunogenic derivative ~~wherein said polynucleotide encodes a polypeptide~~ comprising the amino acid sequence of SEQ ID NO: 27.

72. (Withdrawn) An isolated polynucleotide encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 27.